Good News, Bad News, and Social Image:  
The Market for Charitable Giving

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Discussion Paper

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Abstract

This paper experimentally investigates how donors respond to news about the efficiency of their charities, that is, to real prices of giving greater than 1, and how the response depends on that information being public or not. We find that as long as charity efficiency remains private information, individuals reward better-than-expected charities (good news) by increasing their donations. On the other hand, bad news are largely ignored by donors when giving happens under full anonymity. However, when charity efficiency is revealed to others, some donors decrease their contribution in response to good news, and they increase it when news are bad. This emergent behavior accounts for 34% of subjects that do respond to new information. We show that the latter behavior is driven by image-motivated donors, who treat the size of their gift and the efficiency of their recipients as substitutes in terms of social image payoffs.

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1 Introduction

The last fifteen years have seen a remarkable increase in the availability of information about charities’ finances, practices, and transparency policies. Several non-profit organizations, such as Charity Navigator\(^1\), the Urban Institute\(^2\), and GiveWell\(^3\), have since started to monitor and review charities, developing indices and measures aimed to help donors to easily compare different charities and make more informed decisions.

Although both qualitative and quantitative factors are important in the analysis of a charities’ activity, synthetic measures of financial efficiency currently represent a cornerstone for the evaluation of charities’ ability to deliver what they promise\(^4\). While large donors always had both the incentives and the means to gather this type of information, determining the worthiness of a particular charity required nontrivial research efforts for small donors: gathering appropriate government documents, phoning charities to request information, interviewing administrators and board members, or even serving on boards themselves. The emergence of these information clearinghouses however, gives now charities an incentive to report on their own, since being unrated or un-reviewed might look suspicious to donors. As these mechanisms both increase the amount of information readily available and reduce the cost of access, donors of all levels may now seek information at relatively little expense.

While indeed some donors may choose to remain ignorant about these measures\(^5\), the effect this information has on those that do encounter it is poorly understood.

Borrowing a terminology that has become classic in the literature (see i.e. Andreoni 1989), a pure altruist donor, for instance, may respond to new positive information about his charities’ efficiency by reducing his contribution, as now less money is needed to meet his previous expected effective donation\(^6\). Otherwise said, if efficiency is perceived as a proxy for the ef-

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\(^1\)http://charitynavigator.org/
\(^2\)http://www.urban.org/nonprofits/index.cfm
\(^3\)http://www.givewell.org/

\(^4\)For example, Charity Navigator provides a measure called ”program expenses”, which measures the share of the total budget that is spent on programs that further the stated the mission of the charity. Charity Navigator provides several other measures of financial health, including fundraising effectiveness and administrative expense. In Charity Navigator’s methodology, financial health determines at least half of the charities’ overall four-star rating.

\(^5\)Whether small donors seek this information or remain rationally ignorant is an important empirical question we will not address in this current work.

\(^6\)i.e. the percentage of his contribution he was expecting, given his priors, to be effec-
ficacy of giving, then the implicit cost of giving would decrease as positive information is received. Conversely, an impure altruist may increase his contribution in response to unexpected good news, as this positively contributes to his warm-glow. If for these individuals efficiency represents a proxy for deservedness, good news would be rewarded and bad news punished.

Studying the effect of information is important also for another type of impure altruist: image motivated donors. In fact, as information becomes bundled with charities’ names, donors who value the social prestige associated with charitable giving may well take it into account as they choose how much and to whom donate. Suppose that a donor gave money for years mostly to look good to his peers: if the name of his charity becomes more and more publicly associated with high quality and efficiency, he may actually reduce the size of his gifts, as now a new positive signal contributes to the prestige of his generosity, reducing thus the (subjective) cost of looking good (i.e. "I (only) gave 50$, but my charity is very efficient!"). Roughly speaking, an image motivated donor may trade-off the size of his gift with the efficiency of the recipient. Alternatively, he may indeed decide to increase his contribution if he expects some scale economies for his image payoff. Understanding the interaction between information and prestige is thus critical: cheap, widely accessible information about charities’ efficiency in fact makes it progressively harder for a donor to signal his own generosity without indirectly providing information about the efficiency of his gift. Even if this information is sometimes ignored, it cannot be hidden from others when donors advertise how generous they are.

Whether and how the response to information depends on its social visibility thus, represents a second important unanswered question.

Indeed, several studies have pointed out the importance of social-image motives in charitable giving (see i.e. Harbaugh 1998a, 1998b; Andreoni, 1988, 1990). Several studies have shown how the presence of indirect social approval incentives increases individual contributions (e.g. Andreoni and Petrie 2004; Rege and Telle 2004). It is not merely generosity per se that matters, but also the relative cost of giving (lower than one) (Andreoni and Miller 2003; Karlan and List 2007) and its social visibility (Ariely, Bracha and Meier 2009).

Few papers however have studied how information about the quality of the recipients affects generosity (see i.e. Fong 2007; Fong and Oberholzer-Gee 2011), and very little is known about the effect this information has when it is common knowledge.

tively used for the stated mission of the charity.
The objective of the present study is thus twofold: (i) investigate how new information about real charities’ efficiency affects small donors’ contributions, that is, studying donors’ reaction to a real prices of giving greater than one, and (ii) understand whether the public visibility of that information matters for donors, that is, if impure altruists motivated by warm glow respond to private information as impure altruists motivated by prestige would when that information cannot be hidden from others.

To do so we implement a two-phase experiment, with the second phase unknown to the subjects in the first phase. In phase one, subjects freely choose three charities from a list of more than 5,000 charities rated by Charity Navigator, and play three independent dictator games with the selected charities\(^7\). Subjects are also allowed to indicate a favorite charity among the three, a decision that increases the probability of that specific charity being randomly selected for payment. While the first phase serves to assess the unconditional willingness-to-give of subjects, in the second phase we assess how decision made in the first phase are revised in light of new information about the charities. In phase two, subjects are incentivized to correctly guess what they believe to be the true efficiency of their charities\(^8\), and then receive privately the true efficiency values. In what follows, we consider that a subject discovering a charity is more efficient than expected receives good news, and that a subject discovering a charity is less efficient than expected receives bad news. Finally, subjects are given the opportunity to revise their initial donation decisions and to indicate a new favorite, if desired\(^9\).

As we are interested in comparing responses to efficiency information under different levels of social exposure, we implement three between-subjects treatments: (T0) donation decisions and efficiency are private information, (T1) the donation to the final charity is publicly revealed but information about efficiency remains private, and (T2) both efficiency and donation

\(^7\)For each charity, participants are asked to choose how many E$ of their endowment they want to send to each charity, knowing that only one decision will be randomly implemented at the end of the experiment.

\(^8\)For our measure of efficiency, we chose ”program expenses” from Charity Navigator, which captures the percentage of total budget used to implement programs serving the stated mission of the charity. Charity Navigator calculates all financial measures on the basis on the financial information each charity provides in their public tax returns (IRS Form 990).

\(^9\)This means that participants can switch favorite charity across phases, or indicate a favorite in phase 2 while they did not in phase 1 (and vice versa). It’s important to notice that decisions from phase 2, which are the only ones taken into account for payments, cannot influence those made in phase 1, as subjects during phase 1 are unaware of the existence of a subsequent and final phase. This also means that participants do not know whether others did change their decisions across phases.
amount of the randomly-implemented final decision are publicly revealed.

As mentioned, predicting a priori donors’ reaction to new information about efficiency is not trivial. First, individuals may perceive this information as a signal of deservedness. As a consequence, people may reward better-than-expected charities by donating more, and punish worse-than-expected charities by donating less. Second, people may interpret information as a signal of efficacy, or implicit cost of giving. In this case, donors may increase donations to worse-than-expected charities to offset high overhead, and may donate less to better-than-expected charities when it turns out they ”need” less money that expected to meet a certain objective. Third, people may not care at all about synthetic measures of efficiency, considering them as merely reductive means to compare charities that differ considerably in nature\(^{10}\). Finally, the way donors respond to information may depend on whether the latter is private or common knowledge.

Clearly, a person that trades off efficiency with donation amounts for image purposes would behave exactly like someone that maintains constant the effective efficacy of the donation for pure altruism reasons (i.e. reducing gift in response to good news in order to maintain the same expected effective gift). Similarly, if efficiency is perceived as a signal of deservedness or quality, people doing good and people doing well would be indistinguishable.

The important economic question here however is if, given a heterogeneous population of donors, the response in terms of giving to information that is private\(^{11}\) is behaviorally similar to the response to information that is common knowledge.

Our results suggest that this is not the case.

As studies on self-serving biases and imperfect belief-updating show (see i.e. Bradley 1978; Babcock and Loewenstein 1997; Svenson 1981; Eil and Rao 2011; Sharot et al. 2011; Sharot et al. 2012), people tend to avoid or ignore information that carries negative value for them. If donors believe their causes are deserving, when confronted with information that suggests otherwise, such as a lower-than-expected efficiency score, donors might discount or ignore the information.

We expected such behavior in our first treatment, where all information and decisions are private, as there can be no image effect associated with ignoring bad news. In other words, ignoring bad news is relatively cheap.

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\(^{10}\)Even for charities that share a similar purpose, measures of efficiency may be perceived as useless, as other characteristics that distinguish one from the other may be very salient for individuals (i.e. different location, religious vocation, helping children in Ghana or in Brazil etc.).

\(^{11}\)Or at least that can be hidden from others.
Indeed, we find that in our private treatment, participants show no significant response to bad news. Good news on the other hand significantly increases donation amounts across phases. The latter is true also for our second treatment, when donations amount are made public, but information about efficiency remains private.

Second, although we were agnostic on whether good news would increase or decrease giving for image-concerned donors, we expected however to see a significant change in behavior when charity efficiency was made public. Indeed, we find that the way individuals adjust their contributions in response to new information is sensitive to efficiency being publicly revealed. We find that in treatments where efficiency is private information, all participants increased their giving in response to good news. However, in the treatment where efficiency is publicly announced, 34% of those that reacted to information did so by donating less in response to good news, and donating more in response to a bad one.

We show that an interpretation that explains different behavior in public and private treatments is that efficiency and donation amounts may be substitutes in terms of social image. This means that an image-motivated donor would be indifferent between announcing a large donation (without specifying anything else) and announcing a smaller donation that goes to a highly efficient charity.

Our results suggest that as values of efficiency measures become common knowledge, the most efficient charities are likely to lose some part of their support, due to the interaction between social image concerns and visibility of information. Without social image concerns, providing efficiency information donors will increase donations, since approximately 75 percent of donors do under-estimate charity efficiency. However, advertising high efficiency widely will decrease donations from certain types of donors. Considering the whole market, we find that the relatively strengths of these effects are equal and total volume in the market for giving is unchanged by making efficiency public.

2 Background

Economics literature has long addressed the question of why people donate money to private charities. As the traditional idea that people are motivated only by pure altruism fails to explain several empirical observations about charitable giving (e.g. large participation, incomplete government crowd out, average contributions non decreasing in the number of contributors)
(see i.e. Andreoni 1988), several theories have been called to explain private charitable giving. In line with the intuition that individuals may derive a direct utility from giving (see i.e. Becker 1974), internalized norms (Arrow 1971; North 1981), social approval (Hollander 1990), warm-glow (Andreoni 1990; Ribar and Wilhelm 2002; Harbaugh, Mayr and Burghart 2007), conditional cooperation (e.g. Fischbacher, Gachter, and Fehr, 2001), reciprocity (e.g. Sugden, 1984), and prestige (Harbaugh 1998a, 1998b; Bracha, Heffetz and Vesterlund 2009), have been identified as powerful motivations for giving.

In particular, the empirical evidence of the importance of social image and prestige is vast. The possibility of direct and indirect social approval incentives generally increase individual contributions (Andreoni and Petrie 2004; Rege and Telle 2004). As individuals appreciate the positive image consequences of giving, their generosity depends also on the cost of giving - or nominal price of giving - (Andreoni and Miller 2003; Karlan and List 2007) and how others would perceive ones’ own generosity given its cost (Ariely, Bracha and Meier 2009). Social influence and imitation as well play an important role (List and Lucking-Reiley, 2002; Shang and Croson 2009; Vesterlund 2003; Potters, Sefton and Vesterlund 2007; Bracha, Menietti and Vesterlund 2011).

Recent studies show that the evidence of giving for self-signaling reasons is weak compared to social-signaling motives (see i.e. Grossman 2010). Although much is known about how warm glow and social image modulates at a general level individual giving, less is known about how information about the recipient of the gift affects generosity.12

In this direction, Fong and Oberholzer-Gee (2011) use real individual recipients and costly information to show that a significant fraction of their subjects is willing to pay to gather information about the recipient and achieve a distribution of income that matches their preferences, and that they use this information to withhold resources to less preferred recipients. Overall however, with costly information not all donors are willing to invest resources to find preferred recipients. Differently from previous literature, our work uses real charities instead of individual recipients and explores the effect on generosity of a real price of giving greater than one. We investigate how cheap available information (as it is nowadays) affects giving, and how the public visibility of that information matters for donors.

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12For empirical evidence on the effects of identification of versus information on the recipient see Small and Loewenstein 2003.
3 Experimental Design

3.1 Overview
We recruited 99 subjects from George Mason University to participate in a simple, individual decision-making experiment. The mean age was 22.25, with 53.95% of men and 46.05% of women; 70% of subjects took at least one course in Economics (with 57% with more than 2 courses)\textsuperscript{13}.

Subjects were seated at private computer terminals and were instructed not to interact or communicate during the experiment. All decisions were made privately. The experiment lasted approximately one and a half hours, and consists of two phases, with the second phase revealed to subjects only at the end of the first phase. Data was collected from May 2012 to July 2012 using pencil-and-paper, but subjects used a computerized search interface for part of the experiment. In all treatments subjects were paid by a third person unfamiliar with the experiment\textsuperscript{14}.

3.2 Phases
We designed three treatments for this experiment, each with two phases. In the first phase of all treatments, subjects were asked to choose three charities from a list of more than 5000 charities. With each of the charities, subjects chose how to split their endowment between them and the charity, knowing that only one split (and thus one charity) would be randomly selected for final implementation. In the second, surprise phase of all treatments, subjects received new information about their charities and were allowed, should they wanted to, to adjust their initial decisions in response to this new information. One of three decisions from the second and last phase was implemented according to a compound lottery.

3.3 Treatments
Our three treatments differed in whether the implemented decision was publicly revealed and whether the news each subject received was publicly revealed. In no treatment was the name of the randomly chosen charity revealed, nor was the name of the subject revealed, nor was any personal

\textsuperscript{13}67.4% of subjects declared to have donated money at least once in the last year (any sum to anyone), 69.8% to have volunteered, and 12% to have tithed.

\textsuperscript{14}As detailed further, this means that in all treatments the experimenter is unaware of the overall decisions made by participants and the characteristics or name of their recipients.
information about the subject revealed.

In our control, Treatment 0 (T0), all decisions and information were private. In Treatment 1 (T1), subjects were required to stand up at the end of the experiment and announce only how much they donated to the randomly chosen charity. In Treatment 2 (T2), subjects were required to stand at the end of the experiment and announce both the amount donated to the randomly chosen charity and the information received about that charity in the second phase 15.

Note that phase 1 decisions are fully comparables across treatments T1 and T2, as in both subjects’ information set is the same (i.e. they only know that the donation to the randomly selected charity will be publicly revealed).

15Subjects in T1 and T2 were explicitly told that the name of the charity should never be revealed.
Table 1: Experiment Design

<table>
<thead>
<tr>
<th>Phase One</th>
<th>Phase Two</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>T0 Pick charities, familiarity quiz, comprehension quiz, initial donation decisions, and choice of favorite (if ever). Participants aware all decisions will be private.</td>
<td>News explained; comprehension quiz; subjects guess their charities' efficiency; real efficiency revealed; final donation decisions, and choice of favorite (if ever). Explained that efficiency of the final charity will be private.</td>
<td>One of three decisions implemented by compound lottery.</td>
</tr>
<tr>
<td>T1 As above, but subjects aware that final donation will be made public.</td>
<td>As above. Subjects reminded donations will be made public. Explained that efficiency of the final charity will be private.</td>
<td>As above. Subjects must stand and announce the implemented donation amount.</td>
</tr>
<tr>
<td>T2 As above, subjects aware that final donation will be made public.</td>
<td>As above. Subjects aware that both donation and real efficiency of final charity will be made public.</td>
<td>As above. Subjects must stand and announce both donation amount and news.</td>
</tr>
</tbody>
</table>

3.4 Detailed Procedure

Subjects were endowed with 25 experimental credits (EC; equivalent to $17 US). Participants were presented with a web-based search interface for a database of approximately 5,400 charitable organizations, which represents the full list of charities rated by the charity watchdog Charity Navigator (CN)\textsuperscript{16}.

\textsuperscript{16}Charity Navigator is a nonprofit organization which analyzes and rates charities based on their financial records and transparency (http://www.charitynavigator.org). Information about CN is provided to participants only at the beginning of Phase 2. CN rates charities that have both local branches and national or international offices. Subjects were only allowed to choose one office, either local or (inter)national, but not both.
Subjects selected three charities from the database and answered questions about their familiarity with and attitude toward each charity (Appendix B).

After completing a comprehension quiz, subjects decided how to split their initial endowment of 25 EC between themselves and each charity\textsuperscript{17}.

Subjects were instructed that the three decisions were independent and that at the end of the experiment only one decision would be randomly selected for implementation. We emphasized that only one of the three charities would receive the donation, and that subject would be paid according to the split chosen by the subjects for the randomly-implemented charity. Subjects were assigned a random ID number, and were told that donations would be made on their behalf by the experimenter, using the ID number as a donor name. Later, subjects were able to collect the receipt of the donation, and verify that the correct amount was sent. If subjects were in Treatment T1 or Treatment T2, they were informed that the donation amount they allocated to the randomly-implemented charity would be publicly revealed at the end of the experiment.

Although we could have asked participants to pick only one charity, we decided that three independent decisions would allow us to assess both the absolute and relative effect of revealed information (news) on donations\textsuperscript{18}.

In addition, we were interested in knowing whether subjects were willing to increase the probability that one of three charities would be implemented, both before and after news was revealed. By having such selection mechanism in both phases, we are able to assess what charity among the three subjects prefer the most prior information about efficiency is revealed, and the extent to which subjects in phase 2 would be willing to alter this selection after information is disclosed. As we move along treatments, private information becomes more and more public: a cross treatment comparison of changes in favorites thus, allows us to infer the degree to which information alters intrinsic ordinal preferences of individuals (e.g. in T0 and T1) or alters extrinsic motives for giving (e.g. T2). Therefore, subjects were allowed to designate one charity as their "favorite".

A compound lottery consisting of a coin toss and a die roll determined which decision would be implemented. If no favorite was indicated, each phase 2 decision stood a one in three chance of being implemented (33 percent)\textsuperscript{19}. However, conditional on a favorite being chosen, that favorite stood

\textsuperscript{17} Any integer amount from zero up to and including 25 EC could be chosen to send to each charity.
\textsuperscript{18} For a detailed discussion of this experimental procedure please see section 5
\textsuperscript{19} At the end of the experiment we rolled a die in front of everyone. An outcome of one
an increased chance of being implemented of two in three (66 percent).

Since subjects were not informed that this was a two-phase experiment at this point, indicating a favorite indicated a personal preference for the selected charity. In Phase 2, a different charity could be chosen as a favorite, indicating either a personal preference or a reaction to news, since choosing a favorite at this point was conditional on having received news about all three charities.

At the beginning of Phase 2, subjects were asked to hide their decision sheets and return the initial list of charity names to the experimenter. This list was used to create the final decision worksheet for Phase 2. We used a computer program to collect the names of each charity profiled by CN, as well as a homogenized measure of charity efficiency called "program expenses". Program expenses is ratio of dollars spent providing services in pursuit of the charity’s stated mission or purpose over the charity’s total functional expenses. The residual below unity can usually be thought of as the percentage of a charity’s budget spent on fundraising and administrative expenses, although a few charities have nontrivial expenses in other categories. Collecting this data in advance allowed us to use the search interface we designed to quickly and accurately find the program expenses rating associated with the charities on each subject’s worksheet. These ratings were handwritten by a lab assistant on the worksheets.

While we were preparing the final decision worksheet, we explained what "program expenses" measured and gave an example. We asked subjects to guess each charity’s actual program expenses ratio, as well as how confident they were in their guess by revealing the subjective likelihood that the true

or two indicated the decision associated with the first charity on each subject’s list would be chosen; three or four, the second; and five or six, the third.

20We also flipped a coin at the end of the experiment. An outcome of “heads” indicated the donation decision associated with each subject’s favorite charity would be implemented. If the outcome was “tails”, the result of the die roll determined which decision was implemented.

21Horn, Jeffrey R. Charity Navigator Scraper. https://github.com/jrhorn424/charity-navigator-scraper
22Charity Navigator, section “How Do We Rate Charities’ Financial Health?”.
23A footnote about average program expenses (or the distribution), admitting they vary by sector, is appropriate here.
24Ratings were returned almost instantaneously due to two design factors. First, data was stored in the web page (charity names for subjects; both names and ratings for experimenters) rather than on a server, eliminating the lag from Internet communications. Second, the search scope was narrowed with each keystroke; so-called “fuzzy matching”. This works well for small datasets, but requires longer page load times as web pages approach megabytes in size.
ratio fell within each of five quintiles. Subjects were informed that they would later receive the true values of efficiency for their charities: if their guess was within +/- 5% from the true value, they received additional 6ECU at the end of the experiment, provided that the charity for which the guess was correct was randomly selected for payments.

If subjects were in Treatment T1 or Treatment T2, we reminded them that the donation amount they allocated to the randomly-implemented charity would be publicly revealed at the end of the experiment. If subjects were in Treatment 2, they were informed for the first time that the program expenses rating of the randomly-implemented charity would also be revealed.

Subjects in T0 were reminded that all their decisions and information would be kept private, and subjects in T1 that only the amount sent to the final charity would be revealed. Afterward, we returned the final decision worksheets with the charity news (program expenses ratio) to the subjects, at which point subjects were given the opportunity to adjust their initial split and to change favorites, if desired. Finally, one of the three decisions was implemented randomly according to the previously described compound lottery\textsuperscript{25}.

4 Results

We organize our results as follows: in section 4.1 we present general results on (i) overall donations, (ii) real efficiency levels and individual guesses about efficiency, and (iii) decisions about favorite. In section 4.1.2 we combine individual guesses and real efficiencies to examine how the quality of information (bad/good news) about charities' efficiency affects donation levels and choices of the favorite charity across treatments.

Before proceeding, it may be useful to recall how information sets in phase 1 and 2 differ across treatments. In phase 1, participants are never told anything about efficiency: by consequence treatment T1 and T2 look exactly the same from phase 1 perspective: in both, the only information provided is that the donation amount to the randomly selected charity will be announced to others.

Differently, in treatment T0 participants' decisions are kept private. The outcome variables from phase 1 in treatments T1 and T2 can thus be ag-

\textsuperscript{25}For treatments T1 and T2, once the final charity was randomly selected, subjects where orally reminded to cover the other 2 decisions as the experimenter would stand by them when they announced their donation (both treatments) and the charity's efficiency (only T2). As this procedure was orally explained also in phase 1, subjects could not misreport their decisions or expect to do so.
gregated, and compared with treatment T0 results. On the contrary, in phase 2 the information sets are different in all treatments. In treatment T0, both donation amount and real efficiency of the final charity remain private information; in treatment T1 the donation amount to the final charity is revealed to other participants while its real efficiency remains private; finally, in treatment T2 participants know that both information will be made available to other participants.
4.1 General Results

Table 2 reassumes our principal descriptive statistics.

Table 2: Summary Statistics

<table>
<thead>
<tr>
<th>Summary Statistics</th>
<th>N</th>
<th>mean</th>
<th>sd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T0</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donation Phase 1</td>
<td>81</td>
<td>8.86</td>
<td>8.18</td>
</tr>
<tr>
<td>Donation Phase 2</td>
<td>81</td>
<td>9.45</td>
<td>8.48</td>
</tr>
<tr>
<td>Favorite Phase 1</td>
<td>81</td>
<td>0.66</td>
<td>0.47</td>
</tr>
<tr>
<td>Favorite Phase 2</td>
<td>81</td>
<td>0.62</td>
<td>0.48</td>
</tr>
<tr>
<td>Efficiency Guess</td>
<td>81</td>
<td>68.93</td>
<td>18.07</td>
</tr>
<tr>
<td>Real Efficiency</td>
<td>81</td>
<td>79.50</td>
<td>15.14</td>
</tr>
<tr>
<td><strong>T1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donation Phase 1</td>
<td>84</td>
<td>10.30</td>
<td>7.88</td>
</tr>
<tr>
<td>Donation Phase 2</td>
<td>84</td>
<td>10.49</td>
<td>8.24</td>
</tr>
<tr>
<td>Favorite Phase 1</td>
<td>84</td>
<td>0.78</td>
<td>0.41</td>
</tr>
<tr>
<td>Favorite Phase 2</td>
<td>84</td>
<td>0.85</td>
<td>0.35</td>
</tr>
<tr>
<td>Efficiency Guess</td>
<td>84</td>
<td>74.15</td>
<td>11.39</td>
</tr>
<tr>
<td>Real Efficiency</td>
<td>84</td>
<td>82.34</td>
<td>8.41</td>
</tr>
<tr>
<td><strong>T2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donation Phase 1</td>
<td>132</td>
<td>8.84</td>
<td>7.92</td>
</tr>
<tr>
<td>Donation Phase 2</td>
<td>132</td>
<td>8.86</td>
<td>8.23</td>
</tr>
<tr>
<td>Favorite Phase 1</td>
<td>132</td>
<td>0.70</td>
<td>0.46</td>
</tr>
<tr>
<td>Favorite Phase 2</td>
<td>132</td>
<td>0.77</td>
<td>0.42</td>
</tr>
<tr>
<td>Efficiency Guess</td>
<td>132</td>
<td>68.98</td>
<td>18.13</td>
</tr>
<tr>
<td>Real Efficiency</td>
<td>132</td>
<td>80.04</td>
<td>13.63</td>
</tr>
</tbody>
</table>

Note: favorites are % of individuals indicating a favorite.

4.1.1 Donations

Overall, participants did donate a significant part of their endowment of 25E$ to the charities they choose. With only 16.8% of subjects donating zero in phase 1, and 17% donating zero in phase 2, participants gave on average 9.25 E$ in phase 1, and 9.48 E$ in phase 2. This leaves to subjects average final earnings of 17 US dollars (including show up fee).

A two-sided Jonckheere-Terpstra test shows that donations in phase 1 are not significantly different across treatments ($p=0.724$); similarly, dona-
tions in phase 2 are overall similar across treatments \((p=0.392)\). Finally, the average difference of donations between phases is not different across treatments \((p=0.282)\).

One may be surprised to notice that making donations public does not increase the average individual contributions: by comparing differences in donations between phases in fact, we find that the average difference in private treatment \((T0)\) is not significantly different from the average of the two treatments where donation amounts are visible \((T1 \text{ and } T2)\) \((p=0.286)\).

Indeed numerous papers have shown that public visibility generally increases donors’ contributions. However, in most of those papers individuals face only one decision while in our experiment each participant takes three simultaneous decisions. By consequence, an immediate comparison of our results with previous literature may be misleading.

### 4.1.2 Efficiency and guesses about efficiency

We now turn to how people formed guesses about efficiency in our experiment.

As explained in section 3, participants received in phase 2 information about their charities’ efficiency, after having guessed their values. Clearly one of the concerns could be that differences across treatments in terms of donation amounts would be hard to interpret if either real efficiency values or guesses were systematically different across treatments.

Real efficiency values encountered both within and between treatments are fully comparable. As the total average of real efficiency was 80.5\% (s.d. 12.85), averages of real efficiency were not significantly different across the three treatments \((p=0.792)\). This means that across treatments, subjects selected charities very similar in terms of efficiency. As participants choose

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26Because more information is revealed to other participants when one moves along treatments, at a general level of analysis it seems natural to compare outcomes using the distribution free Jonckheere-Terpstra test, which tests whether a variable significantly differs as we move along k ordered treatments. The interpretation of the results is similar as for companion non-parametric tests like Mann Whitney with one exception: p-values for two sided test in this context represent the probability that a variable consistently differs as one either ascend or descend the ordered treatments.

27Unless mentioned otherwise, all p-values from pairwise comparisons come from two-sided Wilcoxon-Mann-Whitney tests or Wilcoxon matched-pairs signed-ranks. For comparisons of three treatments, all reported p-values come from two-sided Jonckheere-Terpstra tests.

28When comparing within subjects donations to the three charities (i.e. how much to the first charity, to the second, etc.), we do not find significant differences in either phase 1 or phase 2 (respectively \(p=0.431\) and \(p=0.512\)).
three charities however, one may wonder if efficiencies are comparable also between subjects, regardless of the treatment they are in\textsuperscript{29}. We do not find evidence that some subjects systematically received much skewed draws of charities.

We can draw essentially the same conclusion by looking at participants’ guesses. For the latter one additional concern is in place: in treatment T2 in fact, differently from the other two treatments, participants were guessing the efficiency knowing that its true value would be revealed to others: the way in which people do form beliefs thus may have been biased by this information. By confronting average guesses in our T2 treatment versus the other two however, we cannot reject the hypothesis that indeed subjects did form their guesses in the same way across treatments ($p = 0.432$). Finally, also average guessing errors are not significantly different across treatments ($p=0.839$).

Taken together, these results show that across treatments, participants received the same proportion of good and bad news. Once again thus, one cannot interpret results as a consequence of a systematic difference across subjects and treatments of the quality of information and/or individual guesses. Table 3 shows the proportion of good and bad news received in each treatment.

\begin{table}[h]
\centering
\begin{tabular}{lll}
\hline
 & Good News & Bad News & Total \\
\hline
T0 & 60 (74.07\%) & 21 (25.93\%) & 81 (100\%) \\
T1 & 64 (76.19\%) & 20 (23.81\%) & 84 (100\%) \\
T2 & 102 (77.27\%) & 30 (22.73\%) & 132 (100\%) \\
\hline
\end{tabular}
\caption{Proportion of good/bad news received by treatment}
\end{table}

**Note:** proportion of good and bad news by treatment

### 4.1.3 Indicating a favorite

We finally turn to decisions about the favorite charity.

\textsuperscript{29}Clearly, choosing for instance three charities that have very bad efficiency scores may impact behavior very differently than choosing three highly efficient charities. Similarly, keeping the value of efficiency constant for one charity, one may react to that specific information very differently depending on the relative rank of that charity with respect to the other two.
Looking at these decisions, we see that overall most of participants indeed choose to indicate a favorite in both phase 1 (71% of subjects) and phase 2 (75.7%). Decisions regarding the favorite in phase 1 do not differ across treatments when we compare all treatments (p=0.921), as well as when we compare treatment T0 with the other two pooled together (p=0.672). The latter result is important as it excludes that the visibility of donation amounts (known from phase 1) alters individual preferences.

While looking at choices in phase 2 instead, we observe that more participants decide to indicate a favorite charity in phase 2 when we move from T0 to T1 to T2 (p=0.073). It is not surprising thus to observe that when more information is made available to other participants, people also start to switch favorite from one phase to the other more often. When participants choose to select a favorite in phase 2 and/or switch favorite, it is always to switch in favor of a more efficient charity (for treatments T0, T1, T2, p=0.012, p=0.0001, p=0.002 respectively)\textsuperscript{30}. The fact that the latter results hold also for treatment T0, suggests that people took seriously the efficiency of their charities\textsuperscript{31}.

\textsuperscript{30}We obtain the same result comparing the real efficiency of all charities with the real efficiency of charities selected as favorite in round 2.

\textsuperscript{31}Because in treatment T0 the experimenter is unaware of all the decisions of participants, experimenter demand effect cannot be called to explain results from that treatment. This represents stronger evidence than considering all treatments together, as the experimenter in the other two (T1 and T2) witnesses participants declaring their final decision.
4.2 The good/bad news effect on donations

In the previous section we have shown that participants did donate a significant portion of their endowment, that they faced comparable efficiency levels across treatments, and did not form guess in a significantly different way from one treatment to another. These general results allow us to analyze more in depth the relationship between the subjective quality of the news and the response in terms of giving under our treatments.

As all participants form incentivized guesses about the efficiency of their charities, some guesses may be lower than the true value of efficiency, some accurate, and others higher than the true efficiency. As we have shown that people do care about how the beneficiaries of their gifts spend their resources, and that people do form meaningful guesses, which we guarantee by monetarily incentivizing correct guesses, we assume that discovering that one’s own charity is more efficient than expected represents good news for the donor, while realizing that a charity is not as efficient as one thought represents bad news. Figure 1 provides a scatter plot of how variations in donations from phase 1 to phase 2 do relate with the type (and intensity) of the efficiency news.
One can immediately notice that the public visibility of efficiency has a dramatic effect on donors' behavior: treatments where efficiency is private information share the same pattern of response to good news: in both, good news increases individuals' contributions. Differently, when efficiency is made visible to other participants, some subjects start to reduce their contributions in response to good news.

As the only difference is the visibility of final charity's efficiency, the emergence of this new behavioral pattern can be attributed to individuals that do care about the effect efficiency has on their social image. In addition, it can be noticed that when information is fully private (treatment T0) individuals do not adjust their donations in response to efficiency levels below their expectations.

Table 4 provides summary statistics about how subjects varied their donations across phases, computed by the type of the news they have received.
**Result 1:** when both donation amounts and efficiency are private information (treatment T0), individuals do largely ignore bad news about their charities but reward good news by increasing contributions.

In each treatment, about 25% of the information about charities’ efficiency represents bad news for subjects. While in treatments T1 and T2 people did vary their contributions in response to bad news, in treatment T0 we see virtually no variations from phase 1 to phase 2 in terms of donation amounts (p=0.632). In treatment T1 people reduce donations in response to bad news (p=0.020). In treatment T2 some individuals do reduce their donations in response to bad news and some, as discussed further, do increase.

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**Table 4: Number of increases and decreases in donations by type of news**

|       | Good News |          | Bad News |          |
|-------|-----------|----------|----------|
|       | n | mean (E$) | s.d.     | n | mean (E$) | s.d.     |
| **T0** |   |           |          |   |           |          |
| Increased Donation | 11 | 1.1 | 3.13 | 2 | 0.25 | 0.78 |
| Decreased Donation | 3 | 3.3 | 4.04 | 1 | 10 |
| No Change | 46 |   |   | 18 |   |
| Total | 60 |   |   | 21 |   |
| % Changed | 23% |   |   | 14% |   |
| **T1** |   |           |          |   |           |          |
| Increased Donation | 10 | 0.83 | 2.31 | 0 |   |
| Decreased Donation | 1 | 2 | 6.9 | 5 | 5.2 |
| No Change | 53 |   |   | 15 |   |
| Total | 64 |   |   | 20 |   |
| % Changed | 17% |   |   | 25% |   |
| **T2** |   |           |          |   |           |          |
| Increased Donation | 21 | 1.11 | 2.32 | 4 | 1.05 | 2.39 |
| Decreased Donation | 12 | 6.25 | 5.78 | 10 | 4.3 | 3.33 |
| No Change | 69 |   |   | 16 |   |
| Total | 102 |   |   | 30 |   |
| % Changed | 32% |   |   | 46% |   |

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32 For treatment T1 people reduce donations in response to bad news (p=0.020). In treatment T2 some individuals do reduce their donations in response to bad news and some, as discussed further, do increase.

33 In treatment T0, the average donation in phase 1 before a bad news is 9.3 E$, and 9.1
The same result holds when we consider reductions in donation between treatments: reductions after a bad news are significantly lower in T0 compared to treatments T1 and T2 (p=0.021). As in treatment T0 no social image component is involved, this result may be explained by aversion to negative information or image value of ones’ own charities. If in fact the absence of response to bad news was driven by a low elasticity of donations to information (i.e. people simply don’t care about information), we should observe no variations in donation amounts also in response to good news. We do see instead that when news is good, participants do indeed modify their donation behavior by increasing their contributions to better-than-expected charities (p=0.023), suggesting that efficiency is treated as a signal of quality or deservedness.

This asymmetry in information processing suggests that the same mechanism of imperfect updating found in other areas of decision making may be in place when it comes to evaluate negative (private) information about charities people care of: in this sense, (private) good and bad news would not only be a proxy for deservedness or quality of the charity, but would directly affect the utility individuals get from holding a positive opinion of their charities. Without a direct "self-image" utility for the subject in fact, we should observe a reduction of donations in response to bad news.

Another argument could be that subjects do not think being "fair" to reduce their support to a good cause, even in face of new negative information; if that was the case however, we should observe the same behavior at least in the closest treatment T1 which, as explained further, is not the case.

The unresponsiveness to bad news thus suggests that a mechanism of self-reward may accompany the evaluation of charities’ efficiency, which is consistent with the anecdotal evidence that people attach an identity value (or self-image value) to the charities they donate to. This result has an important consequence for the overall market for giving: if people do not punish charities that are worse-than-expected but do increase donations to better-than-expected ones, then the diffusion of efficiency measures will increase the total volume for those donations made under anonymity, no

E$ in phase 2 after bad news is received. In treatment T1 is 9.8 E$ and 8 E$ respectively; in treatment T2, 12.1 E$ in phase 1, and 11.4 E$ in phase 2.

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34 see i.e. Eil and Rao (2011); Mobius, Niederle, Niehaus and Rosenblat (2012).
35 People in fact may follow a rule but believe that it would not be socially acceptable. Even with this type of private rule however, response to bad news should be the same in treatment T1 because information about efficiency is still private information.
matter the proportion of good and bad news in the population\textsuperscript{36}.

**Result 2:** When efficiency remains private information but the final donation amount is disclosed to others (treatment T1), participants start “punishing” worse-than expected ones by reducing contributions, and continue to “reward” better-than-expected charities by increasing their gift.

In treatment T1, when people respond to new information, good news is always rewarded with increased donations (p=0.006), while response to bad news is associated with reductions in donation levels (p=0.027)\textsuperscript{37}. This result suggests that when information about efficiency is private but donation amounts are visible, individuals treat efficiency as a proxy for *deservedness* or *quality*, punishing thus inefficient charities and rewarding good ones.

Although in treatment T1 the donation amount to the final charity is revealed to other participants, the value information about efficiency has in treatment T0 and T1 should nevertheless be the same, as efficiency has no social image component in both treatments. It is surprising thus to observe that making the donation amount public pushes some participants to vary their donation amounts in response to bad news.

A possible explanation is that the visibility of the final donation amount raises the salience of information about efficiency, making subjects more sensitive to information that they would otherwise disregard. This is still coherent with the idea that taking into account negative information has a cost, which is avoided as far as the cost or effort needed to disregard information is low.

Alternatively, one may argue that individuals use donation amounts to indirectly signal that they do care about efficiency: suppose individuals hold correct priors about what would be the average contribution from a donor that cares about his charities; as high donations may signal that the subject chose a very efficient charity, a low donation may signal that the individual is responding to information that he believes being important for others. The latter interpretation has however some shortfalls: first, participants know that others do not observe their own initial decision; by consequence, any declared amount says nothing about whether the individual changed or not his previous decision (and in which direction). Moreover, making a small contribution represents a noisy signal: a low donation may either signal that the person is punishing a charity, or that the individual is simply greedy.

\textsuperscript{36}By pooling all decisions from treatment T0 in fact, we see that donations in phase 2 are significantly higher than donations in phase 1, no matter the quality of information (p=0.029).

\textsuperscript{37}Average reduction in response to bad news is 1.8E\$, and average increase in response to good news is 1E\$. 

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The only explanation we feel to exclude is that bad news is used as an excuse to raise one’s own payoff: that being the case in fact, we should observe the same behavior in treatment T0.

Both interpretations however suggest that when information about efficiency is private but individual generosity public, individuals treat efficiency as a proxy for deservedness or quality.

**Result 3:** When efficiency is revealed to other participants, a significant fraction of subjects start to reduce donations to better-than-expected charities and to increase contributions to worse-than expected-ones.

As the efficiency of the final charity becomes public information (T2), we observe two major differences with respect to treatments T0 and T1: first, the percentage of subjects that change their donations between phases in response to new information is significantly higher in T2. Second, while in treatments T0 and T1 almost all of the variation comes from subjects that increased donations in response to good news and decreased donations in response to bad news, in treatment T2 this relationship breaks down, as a significant portion of subjects modify their donations in the opposite way: 12 out of 33 (36%) variations after good news is received are negative variations, and 4 out of 14 (28.5%) variations after bad news represent increases in donation amounts.

As the only difference in treatment T2 is the visibility of efficiency of the final charity, deviations from behavior observed in previous treatments can be only attributed to the social image effect of efficiency visibility.

To formally test this intuition and analyze why the public visibility of charity efficiency pushes a significant fraction of subjects to reduce donations in response to good news and to increase donations in response to bad ones, we divide subjects from T2 in two groups: in group 1 we place all subjects that do have at least one decreased donation after good news (or increased donation after a bad news); this represents the group of subjects that show a behavior that is virtually absent from treatment T0 and T1. For sake of simplicity we call these decisions ”deviant” observations. In group 2 we place all the other subjects. Because the minimum requirement to be in group 1 is to have only one ”deviant” observation, if results from T2 treatment are due to errors made by subjects or noise, the two groups constructed in this way should show no significant difference one from another, no matter what we compare across the two.

As one may argue that those ”errors” can be big relatively to the other observations, it is important to notice that all the following results obtained comparing the two groups do hold even when we categorize in group 1 subjects that had at least two ”deviant” observations instead of one. Group 1
includes 12 subjects (36 observations), and group 2 32 subjects (96 observations).

We thus proceed to investigate whether there are systematic differences across the two groups in terms of news received, beliefs, and donation decisions. A first explanation for our results from treatment T2 could be that individuals from group 1 systematically received only good news or only bad news: this being the case, a subject receiving only good news may choose to increase his contribution to the charity that did relatively better than expected, and reduce the donations to the other two charities (whose efficiency would still be a good news).
The same logic would apply for a subject receiving only bad news. By comparing the proportion of good and bad news received in the two groups however, we cannot reject the hypothesis that the two groups indeed received the same composition of good and bad news (p= 0.179)\(^{38}\). The same conclusion can be drawn using a two-groups proportion test (p=0.518).

A second possibility is that subjects from group 1 form guesses in a significantly different way; being this the case, the metrics we use to define good and bad news would be unsuitable to compare the two groups. We find no evidence that subjects from the two groups did guess differently (p=0.376).

If news received and beliefs are the same across the two groups, why thus the visibility of charities’ efficiency induces group 1 subjects to decrease their gift to better-than-expected charities and increase it in response to bad news?

We do find that the two groups show significant differences in terms of donations’ patterns, choices over the favorite mechanism, and the level of concentration of their donations among the three charities.

First, we find that in phase 1, individuals in group 1 donate on average more than subjects in group 2 (p=0.024); the difference between the two groups however disappear when we compare average donations in phase 2 (p=0.341). Group 2 participants donate less in phase 1 but increase their average donations in phase 2 (p=0.011); group 1 participants instead, start with high donations in phase 1 but on average do not increase in phase 2 (p=0.319). Together, these results rule out the possibility that subjects in group 1 are reducing donations in face of good news because they are intrinsically greedier\(^{39}\).

Second, group 1 subjects switch favorite charity significantly more than group 2: while looking at decisions to either change charity between phase 1 and phase 2, or moving from not having a favorite in phase 1 and indicating one in phase 2, subjects from group 1 use the switch mechanism significantly more than group 2 subjects (p=0.000).

Finally, we look at the relative concentration of donations among the three charities between phases. We have seen that group 1 subjects donate more than group 2 in phase 1, but their average donations do not increase across phases; as group 1 also relies significantly more on the switch mech-

\(^{38}\)The same results are obtained if we confront subjects from group (i) with all other subjects from all three treatments.

\(^{39}\)Even more convincingly, we can notice that the average donation in phase 1 for group 1 subjects is 10.52 E5 (s.d 5.88), which is very close to the average donation in phase 1 for subjects from treatment T1 (10.29 E$, s.d. 7.8).
anism, looking at the concentration of donations among their charities is important to understand whether these subjects do simply change their favorite charity without altering the relative proportion of money they send to each of them, or if in phase 2 they put relatively more money on fewer charities.

To do so we use an individual measure of donations’ relative concentration in phase 1 and phase 2, namely the Herfindahl index\(^40\): as the number of charities is fixed to three in both phases, if subjects are indeed concentrating their donations after information is received, the Herfindahl index should be bigger for phase 2 than for phase 1. We find indeed that for group 1 subjects, the total relative amount made available to the three charities is significantly more concentrated in phase 2 than in phase 1 (\(p=0.000\)). On the other hand Herfindahl indexes from phase 1 and phase 2 are not statistically different when we consider group 2 subjects, and participants in treatments T1 (respectively, \(p=0.158\); \(p=0.941\))\(^41\).

To explain these differences we advance two complementary hypotheses: (1) that subjects from group 1 are those that do care the most about the social image effect of efficiency visibility, and (2) that for these donors, efficiency and donation amounts are substitutes in terms of their social image payoff function.

The argument that group 1 indeed represents the fraction of subjects that appreciate the most the social image component of efficiency is simple: if group 1 subjects are image motivated, they should donate more than subjects in group 2 in phase 1, as in phase 1 the amount they donate to their charities is the only factor they know it can affect their social image: in phase 1, being generous for them involves an additional image benefit, absent for group 2 subjects. When phase 2 begins however, participants learn that also efficiency will be revealed to others: this means that in phase 2, participants in group 1 have an additional factor that enters positively in their social image payoff function, namely the final charity efficiency. Given

\(^{40}\)The Herfindahl index is a measure of the size of firms in relation to the industry and an indicator of the amount of competition among them. It is defined as the sum of the squares of the market shares of the 50 largest firms (or summed over all the firms if there are fewer than 50) within the industry, where the market shares are expressed as fractions. The result is proportional to the average market share, weighted by market share. Increases in the Herfindahl index generally indicate a decrease in competition and an increase of market power, whereas decreases indicate the opposite.

\(^{41}\)For our baseline treatment, T0, the relative concentration of donations appears higher in phase 2 than in phase 1 (\(p=0.007\)). This however is not surprising given that in T0 all differences in donations between phases are positives, making thus by definition the index bigger in phase 2.
that about 75% of the times this new visible information affects positively the image payoff function (i.e. good news), then the social image of group 1 subjects is in phase 2 at least as good as it was in phase 1.

As a consequence, on average they face no need to put more money on the table. On the contrary, some resources now can be taken away, as for them the relative cost of looking good has decreased; when it comes to better-than-expected charities thus, appearing good in phase 2 costs relatively less because now, by also signaling that their money is well spent, group 1 subjects can attain the same image utility of phase 1 with a smaller contribution.

On the other hand group 2 subjects, as it happens in T0 and T1, would reward good news, increasing thus their contributions from phase 1 to phase 2.

Finally, if subjects in group 1 care more about what others see, they should rely more on the "favorite mechanism" to raise the probability of a specific charity being selected; they should also concentrate more their gifts in those charities whose donations and efficiency they would be happier to see announced; this means that if we assume that the distribution of charities' efficiency and individual preferences are not correlated, and that the distribution and intensity of preferences over the three charities are not different across group 1 and group 2, then group 1 subjects should switch favorite charity relatively more often than group 2 subjects, and should concentrate more their donations in phase 2, as for them the social image gains from choosing a specific charity are relatively higher. Our previous results suggest thus that the two groups indeed represent different types of donors, and that group 1 subjects are those that value more the image value of charities’ efficiency.

We conclude by looking at how efficiency and generosity are related in terms of social image payoffs. To see why subjects from group 1 do trade off efficiency with generosity, one can notice that the essential difference between treatment T1 and treatment T2 is that in the latter, efficiency has an instrumental value: in T1, the only way image motivated donors can signal their pro-social attitude is to make large donations. Differently, in treatment T2 two pieces of information are made available to others: how generous the donor is, and how efficient his charity is. It appears reasonable to assume that both efficiency and donations’ amounts are positive arguments in terms of social image payoffs (i.e. both are normal superior goods). In treatment T2 thus, an image motivated donor has two means to increase his social image payoff: by signaling that he cares about others (high donations), and by signaling that he cares about how well others serve their stated mission
(high efficiency). As a consequence however, when efficiency becomes common knowledge, an image motivated individual may attain the same level of image utility he was expecting before learning that efficiency would be visible by donating slightly less but showing that his generosity is effective.

The strategy we use to test this hypothesis is to construct a measure of ex-ante expected efficacy of gift and an ex-post objective measure of efficacy, and confront them. Before receiving true values of efficiency, in fact, subjects were asked to guess the efficiency of their charities. As at that point subjects had already made their decisions in phase 1 but did not know the true efficiency, the way in which individuals form guesses could only be conditional upon the way they decided to donate, and their priors about the charities’ ability to deliver what they promise. We thus compute the ex-ante expected efficacy of the gift by multiplying the guess about efficiency by the donation made in phase 1. Similarly, once subjects receive the true value of efficiency, the final ex-post objective efficacy of gift is represented by the true value of efficiency multiplied by the donation amount selected in phase 2.

The intuition behind the comparison between these two values is the following: an individual that appreciates the social-image value of efficiency who wants to keep constant the marginal benefit from social image, would choose his donation in phase 2 such that the image benefit he was expecting to receive in phase 1 by declaring only the donation amount, equals the image benefit that can now be obtained by having to declare both the efficiency and the donation amount. Assuming that his guess rationalizes the donation he made in phase 1, by doing so he would maintain the same image payoff, and increase his personal monetary payoff.

While we compare ex-ante expected efficacy and ex-post objective efficacy, we do find indeed that these are not statistically different for only one group of subjects: group 1 subjects from treatment T2 (p=0.74). For group 2 subjects instead, the ex-post objective efficacy is always significantly higher than the ex-ante expected efficacy (p=0.0001); similar results are found for treatments T0 and T1 (p=0.0001 and p=0.0002 respectively).

Taken together, these results show that the visibility of both charities’ efficiency and donations pushes image motivated donors to concentrate their donations in fewer charities and to trade off donations’ amounts with efficiency.
5 Discussion

Our experiment was designed to maximize the meaningfulness of giving, to assess the effect real information on real charities has on donors’ behavior, and to evaluate how its impact depends on whether information can be hidden or not from others.

In doing so, we opted for a procedure that necessarily implies some degree of endogeneity in the selection process of charities, and uses an objective measure of financial health which is not completely immune from critiques by practitioners. In this section we wish to address these points in detail.

A first argument concerns the comparability of efficiency across sectors. As different charities serve different missions, the same nominal value of financial efficiency may not mean the same thing when we move from one activity to another. For instance, an efficiency of 80% would be largely recognized as a sign of good health for a charity serving education purposes. However, the same 80% efficiency would look more troublesome for a charity whose main activity would normally involve low overhead and fundraising costs as, for example, providing meals for the homeless.

The size of the association represents another sensitive problem, as smaller charities may not be able to benefit from large economies of scale, which in turn would hamper indicators of financial and organizational efficiency without necessarily mean they stand in poor organizational and financial health.

Finally, it has been argued that larger overhead and fundraising costs may at some point of a charity’s life be necessary to deepen investments, and more generally that using only measures of program expenses to evaluate charities can be highly misleading.\footnote{E.g. Nancy Lublin, CEO of DoSomething.org, a non-profit that targets youth involvement in social change projects, writes that "[...]low overhead doesn’t necessarily mean an organization is awesome at fighting poverty, or that its turnover is low and its people productive. And it certainly doesn’t guarantee that the group is spending wisely." (source: http://www.fastcompany.com/1297922/)}

Indeed our participants were able to select different charities from different sectors, and the pool of charities we presented them includes charities of different sizes. Although we are aware that this may generate some noise, we believe that the benefits of this approach outcast the shortfalls.

A first alternative may have been to restrict our sample to only a subset of homogenous charities belonging to the same cohort. This approach however would have generated in our opinion two layers of much more serious problems: first, by restricting the sample one would truncate observations
from subjects that, although willing to give, would not find in the pool charities they like. Second, given the nature of the second phase of the experiment, forcing subjects to choose charities similar one to another would increase the risk of an experimenter demand effect, as with similar charities subjects may feel "forced" to consider them as commodities and reward the most efficient. A second alternative could be to randomly assign subjects to charities, which however would still make hard to disentangle between experimenter demand effect and true generosity. If in fact subjects cannot choose their charity but are randomly assigned to it, they may have an incentive to either send zero or to show that they are unconditionally generous.

Overall, we believe that if on the one hand our procedure makes hard the control for the underlying selection process, on the other it allows for a much richer and externally valid environment: donors in fact may have a rather heterogeneous set of causes they care about, which translates into donations to charities very different one from another. As our study precisely aims to understand the effect of a homogenous measure on a heterogeneous market as charitable giving, trading off some controls over selection processes with wider choice sets appears to us a reasonable compromise.

Second, our design uses a single measure of financial efficiency, the percentage of the total budget spent on the program. Indeed all charities' evaluators and watchdogs, including Charity Navigator, do provide donors with a much richer set of information and indicators. However, as individuals' opinions about what matters in charities' activity can be very different, and individuals may face different costs of searching for information, we did prefer to give subjects a single measure to limit problems of identification. On the other hand, it is true that most watchdogs do indeed weight and synthesize the vast amount of information provided by charities in simple indexes: while "program expenses" may not be the most "information intensive" index, it does represent nevertheless an important variable of financial health, which in turns accounts for more than half of the criteria used by Charity Navigator.

Finally, although we acknowledge that simply relying on synthetic measures of efficiency may be sometimes misleading, we do believe that the same observation may be made for prices in any commodity markets, and does not undermine in any way the importance of understanding how individuals react to signals (and their social value) in a market, would the signals be prices or efficiency measures.
6 Conclusion

Our study investigates the effect on charitable giving of the public visibility of charities’ efficiency and donors’ gifts.

With treatments that progressively increase the visibility of donation amounts and charities’ efficiency, we assess the effect bad and good news on ones’ own charities have on donors’ behavior.

First, we find that individuals tend to disregard bad news about their own charities when giving happens under full anonymity, but do increase their contributions to charities that turn out to be more efficient than expected. Overall thus, to the extent to which giving is made in private, our results suggest that the diffusion of homogenous efficiency measures would increase the overall size of the market for giving.

Second, we find that individuals start to react to bad news by reducing their giving as soon as donations amounts are made public, suggesting that public donations raise the salience of non-public information such as efficiency.

Taken together, these results suggest that charities’ efficiency is treated as a proxy for quality or deservedness whenever this information remains private.

Differently, we show that when also charities’ efficiency becomes public, a significant fraction of individuals starts to reduce their contributions to better-than-expected charities and increase their gifts to worse-than-expected ones.

We suggest that when information about efficiency has a social image value, some individuals trade off donations with efficiency, paradoxically reducing revenues of those charities that perform relatively better than others. With information about efficiency becoming part of the core information people have about charities, our experiment shows that donors motivated by their social image may reduce their generosity towards better than expected charities, as the visibility of charities’ quality makes appearing generous relatively less expensive.
References


